

PD-L1 Expression in Papillary Thyroid Carcinoma Arising Denovo or on Top of Autoimmune Thyroiditis

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Abstract : Background: The evolution of immune therapy motivated many to study the relation between immune response and progression of cancer. Little is known about expression of PD-L1 (a newly evolving immunotherapeutic drug) in papillary thyroid carcinoma (PTC) arising de-novo and PTC arising on top of autoimmune thyroiditis (Hashimoto's (HT) and lymphocytic thyroiditis (LT)). The aim of this work is to study the alteration of expression of PD-L1 in PTCs arising from de-novo or on top of HT OR LT using immunohistochemistry and image analyser system. Method: 100 paraffin blocks for PTC cases were collected retrospectively for staining using PD-L1 rabbit monoclonal antibody (BIOCARE-ACI 3171 A, C). The antibody expression is measured digitally using Image Analyzer Leica Qwin 3000, and the membranous and cytoplasmic expression of PD-L1 in tumor cells was considered positive. The results were correlated with tumor grade, size, and LN status. Results: The study samples consisted of 41 cases of PTC arising De novo, 36 cases on top of HT, and 23 on top of LT. Expression of PD-L1 was highest among the PTC-HL group (25 case-69%) followed by PTC-TL group (14 case-60.8%) then de-novo PTC (19 case-46%) with P Value < 0.05. PD-L1 expression correlated with nodal metastasis and was not relevant to tumor size or grade. Conclusion: The severity of the immune response in tumor microenvironment directly influences PTC prognosis. The anti PD-L1 Ab can be a very successful therapeutic agent for PTC arising on top of HT.

Keywords : carcinoma, Hashimoto's, lymphocytic, papillary, PD-L1, thyroiditis

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